AMENDMENT TO THE CLAIMS:

1. Canceled.

2. Canceled

3. Canceled

4 Canceled

5. Canceled.

6. Canceled.

7. Canceled.

8. Canceled.

9. Canceled.

10. Canceled.

11. Canceled.

12. Canceled.

13. Canceled.

14. Canceled.

15. Canceled.

16. Canceled.

17. Canceled.

18. (Currently Amended) The medium of Claim ~~17~~ 43 further comprising

(e) program instructions selecting a Signal to Noise Ratio via the correlator as a threshold for reliable communication in the channel;

(f) program instructions comparing the correlation value to ~~this~~ the threshold; and

(g) program instructions determining if the correlation value is above or below the threshold, where a correlation value below the threshold is indicative of unreliable transmission trough the channel.

19. (Currently Amended) The medium of Claim ~~17 and~~ 18 further comprising:

(h) program instructions adjusting the carrier frequency ~~of the carrier~~ to frequencies relevant for the transmission of the data signal ~~information content~~; and

(i) program instructions measuring the correlation value for each carrier frequency, where the correlation value vs. frequency is a measure ~~for~~ of the frequency dependent loss of the channel.

20. (Currently Amended) The medium of Claim ~~17~~ 43 further comprising:

(j) program instructions adjusting the power level of the data signal to compensate for attenuation of the ~~transmitted~~ data signal.

21. (Currently Amended) The medium of Claim ~~17~~ 43 further comprising:

(k) program instructions altering the correlation value by adjusting the PN code ~~rate~~ (f_0) or the carrier frequency (f_c).

22. (Currently Amended) The medium of Claim ~~17~~ 43 further comprising:

(l) program instructions adjusting ~~the length of~~ the PN code length ~~sequence~~ to compensate for a noisy environment.

23. (Currently Amended) The medium of Claim ~~17~~ 40 further comprising:

(m) program instructions modulating the PN code ~~sequence~~ and/or the carrier and/or the PN modulated carrier with ~~a~~ data signal ~~[m (t)]~~.

24. (Currently Amended) The medium of Claim ~~17~~ 40 further comprising:

(n) program instructions determining the presence of an unreliable data transmission where the predetermined maximum PN code length does not exceed the threshold value.

Please add the following New Claims:

25. (New) A method of dynamic measurement of a communication channel using a Direct Sequence Spread Spectrum (DSSS) communication system, comprising the steps of:

(a) generating a Pseudo Noise (PN) code (f_0=1/T) having a length (l), where f_0 =PN signal bandwidth, and T = Chip rate;

(b) modulating a carrier (cos. $2\pi f_c$) with the PN code, where f_C = Carrier frequency;

(c) modulating the PN coded carrier with a data signal as a PN coded data signal;

(d) providing the PN coded data signal to a correlator via a communication channel for determining transmission characteristics of the communication channel; and

(e) determining a correlator value for extracting the PN code from the PN coded data signal via a power detector, where the correlator value is a measure of attenuation loss of the communication channel.

26. (New) The method of Claim 25 further comprising the steps of:

(f) selecting a Signal to Noise Ratio via the power detector as a threshold for reliable communication in the communication channel;

(g) comparing the correlation value to the threshold in the power detector; and

(h) determining if the correlation value is above or below the threshold via the power detector, where a correlation value below the threshold is indicative of unreliable transmission through the communication channel.

27. (New) The method of Claim 25 further comprising the steps of:

(f) adjusting carrier frequencies (f_c) in step (b) to frequencies relevant for transmission of the data signal; and

(g) measuring the correlation value for each carrier frequency, where the correlation value vs. frequency is a measure of an attenuation loss of the channel.

28. (New) The method of Claim 25 further comprising the step of:

(f) adjusting a power level for the PN coded data signal to compensate for attenuation of the transmitted data signal.

29. (New) The method of Claim 25 further comprising the step of:

(f) altering the correlation value in step (d) by adjusting the PN code (f_0) or the carrier frequency (f_c).

30. (New) The method of Claim 25 further comprising the step of:

(f) adjusting the PN code length to compensate for a noisy environment on the communication channel.

31. (New) The method of Claim 25 further comprising the step of:

(f) modulating the carrier with the data signal.

32. (New) The method of Claim 25 further comprising the step of:

(f) determining the presence of an unreliable data transmission where a predetermined maximum PN code length does not exceed a threshold value.

33. (New) The method of claim 25 further comprising the step of:

(f) providing the PN coded data signal plus a channel noise signal to the correlator via the communication channel for determining transmission characteristics of the communication channel;

(g) selecting a Signal to Noise Ratio as a threshold for reliable communication in the communication channel;

(h) comparing the correlation value of the PN code to the threshold value; and

(i) determining if the correlation variable is above or below the threshold, wherein,

a correlation value above the threshold is indicative of reliable transmission through the communication channel.

34. (New) A system of dynamic measurement of a communication channel using a Direct Sequence Spread Spectrum (DSSS) communication system, comprising:

(a) a code generating apparatus which generates a Pseudo Noise (PN) code (f_0=1/T) having a length (l), where f_0 =PN signal bandwidth, and T = Chip rate;

(b) a carrier modulating apparatus which modulates a carrier (cos. $2\pi f_c$) with the PN code where f_C = Carrier frequency;

(c) a data modulating apparatus which modulates the PN coded carrier with a data signal as a PN coded data signal;

(d) a transmitter apparatus which transmits the PN coded data signal to a correlator via a communication channel for determining transmission characteristics of the channel;

(e) a frequency-controlling apparatus that tunes the carrier frequency to predetermined frequencies relevant for the transmission of the data signal;

(f) a synchronizing apparatus which determines a correlator value for each frequency for extracting the PN code from the PN coded data signal; and

(g) a power detector apparatus which keeps track of the correlator values and thereby determines the attenuation loss of the communication channel.

35. (New) The system of claim 33 wherein the power detector apparatus selects a Signal to Noise Ratio as a threshold for reliable communication in the communication channel, and determines if the correlation variable is above or below the threshold, where a correlation value below the threshold is indicative of unreliable transmission through the communication channel and a correlator value above the threshold is indicative or reliable transmission through the communication channel.

36. (New) The system of Claim 34 wherein the power detector apparatus adjusts the power level of the data signal to compensate for attenuation of the transmitted data signal.

37. (New) The system of Claim 34 wherein the correlation value is altered by adjusting the chip rate of the PN code ($f_{0)}$ or the carrier frequency (f_c).

38. (New) The system of Claim 34 wherein the length of the PN code is adjusted to compensate for a noisy environment.

39. (New) The system of Claim 34 wherein the presence of an unreliable data transmission is determined where a predetermined maximum PN code length does not exceed the threshold value.

40. (New) A system of dynamic measurement of a communication channel using Direct Sequence Spread Spectrum (DSSS) communication system, comprising:

(a) a code generating apparatus which generates a Pseudo Noise (PN) code (f_0=1/T) having a length (l), where f_0 =PN signal bandwidth, and T = Chip rate;

(b) a carrier modulating apparatus which modulates a carrier (cos. $2\pi f_c$) with the PN code where f_C = Carrier frequency;

(c) a data modulating apparatus which modulates the PN coded carrier with a data signal as a PN coded data signal;

(d) a transmitter apparatus which transmits the PN coded data signal to a correlator via a communication channel for determining transmission characteristics of the channel; and

(e) power detecting apparatus which select a Signal to Noise Ratio as a threshold for reliable communication in the communication channel; determines a correlator value for extracting the PN code from the PN coded data signal, and compares the correlation value of the PN code to the threshold value to determine if the correlation value is above or below the threshold; where a correlation value below the threshold is indicative of unreliable transmission through the communication channel and a correlator value above the threshold is indicative of reliable transmission through the communication channel.

41. (New) A method of dynamic measurement of a communication channel using Direct Sequence Spread Spectrum (DSSS) communication system, comprising the steps of:

(a) generating a Pseudo Noise (PN) code (f_0=1/T) having a length (l), where f_0 =PN signal bandwidth, and T = Chip rate;

(b) modulating a carrier (cos. $2\pi f_c$) with the PN code, where f_C = Carrier frequency;

(c) modulating the PN coded carrier with a data signal as a PN coded data signal;

(d) providing the PN coded data signal to a correlator via a communication channel for determining transmission characteristics of the communication channel;

(e) selecting a Signal to Noise Ratio as a threshold via power detecting apparatus for:

(i) determining a correlator value for extracting the PN code from the coded data signal;

(ii) comparing the correlation value of the PN code to the threshold value; and

(iii) determining if the correlation variable is above or below the threshold,

where a correlation value below the threshold is indicative of unreliable transmission through the communication channel and a correlator value above the threshold is indicative of reliable transmission through the communication channel.

42. (New) A system of dynamic measurement of a communication channel using Direct Sequence Spread Spectrum (DSSS) communication system, comprising:

(a) a code generating apparatus which generates a Pseudo Noise (PN) code (f_0=1/T) having a length (l), where f_0 =PN signal bandwidth, and T = Chip rate;

(b) a carrier modulating apparatus which modulates a carrier (cos. $2\pi f_c$) with the PN code where f_C = Carrier frequency;

(c) a data modulating apparatus which modulates the PN coded carrier with a data signal as a PN coded data signal;

(d) a transmitter apparatus which transmits the PN coded data signal to a correlator via a communication channel for determining transmission characteristics of the channel;

(e) selecting apparatus via power detecting apparatus which select a Signal to Noise Ratio as a threshold for reliable communication in the channel to:

(i) determine a correlator value for extracting the PN code from the PN coded data signal;

(ii) compare the correlation value of the PN code to the threshold value; and

(ii) determine if the correlation value is above or below the threshold; where a correlation value below the threshold is indicative of unreliable transmission through the communication channel and a correlator value above the threshold is indicative of reliable transmission through the communication channel.

43. (New) A medium, executable on a computer system for dynamic measurement of a communication channel using a Direct Sequence Spread Spectrum (DSSS) communication system, comprising:

(a) program instructions for generating a Pseudo Noise (PN) code (f_0=1/T) having a length (l), where f_0 =PN signal bandwidth, and T = Chip rate;

(b) program instructions for modulating a carrier (cos. $2\pi f_c$) with the PN code, where f_C = Carrier frequency;

(c) program code for modulating the PN coded carrier with a data signal as a PN coded data signal;

(d) program instructions for providing the PN coded data signal to a correlator via a communication channel for determining transmission characteristics of the communication channel; and

(e) program instructions for determining a correlator value for extracting the PN code from the PN coded data signal, where the correlator value is measure of attenuation loss of the communication channel.